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Atty Docket No.: 200208134-1
App. Ser. No.: 10/632,412

IN THE CLAIMS:

Please find below a listing of all of the pending claims. The statuses of the claims are set forth in parentheses.

1. (Currently Amended) In a real time operating system running on a hardware platform, the operating system for supporting ~~at least one~~ a plurality of applications, a processor and at least one hardware resource, the improvement comprising, in combination:

- a) a power manager layer; and
- b) said power manager layer being arranged to receive real time input from the plurality of applications, wherein real time input includes a current status and operational requirements of each of said plurality of applications running on the hardware platform;
determine a power management adjustment using the received real time input; and
exchange information with said at least one application, at least one of said processor and said at least one hardware resource, wherein said information includes the determined power management adjustment, to provide implement real time power management responsive to said at least one real time input information.

2. (Currently Amended) An operating system as defined in Claim 1 wherein said ~~at least one~~ plurality of applications includes at least one application-program interface call to said power manager layer.

3. (Currently Amended) An operating system as defined in Claim 2 wherein said at least one call includes the current status of an application of said plurality of applications, the current status comprising at least one of:

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a) a notification that the application ~~said at least one application~~ has been initiated; and

b) a notification that ~~said at least one~~ the application has ended.

4. (Currently Amended) An operating system as defined in Claim 3 wherein the operational requirements of said application ~~is~~ are characterized by:

a) a utilization profile; and

b) said utilization profile is transmitted to said power manager with said start call.

5. (Currently Amended) An operating system as defined in Claim ~~2~~ 3 wherein said at least one call includes the operational requirements for the application, the operational requirements including at least one of:

a) a notification that said ~~at least one~~ application requires at least one hardware resource; and

b) a notification that said ~~at least one~~ application no longer requires said at least one hardware resource.

6. (Original) An operating system as defined in Claim 1 further comprising:

a) a hardware abstraction layer;

b) information is exchanged between said power manager layer and said hardware abstraction layer by means of application-interface calls; and

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c) said hardware abstraction layer is arranged to cause said processor to be actuated in accordance with said calls.

7. (Original) An operating system as defined in Claim 1 further comprising:

- a) a driver layer; and
- b) information is exchanged between said power manager layer and said driver layer by means of application-program interface calls.

8. (Original) An operating system as defined in Claim 1 wherein said power manager layer further comprises:

- a) a processor power state selection mode; and
- b) a hardware resource power state selection mode.

9. (Original) An operating system as defined in Claim 8 wherein said power manager layer includes a resource allocation table.

10. (Currently Amended) An operating system as defined in Claim 1 ~~wherein said~~ further comprising a driver layer is arranged to:

- a) receive an application-program interface call including the operational requirements for an application of the plurality of applications, the operational requirements containing a power state instruction concerning a resource from said power manager layer and to generate a corresponding instruction; and

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b) transmit corresponding information to said a hardware abstraction layer by application-program interface call.

11. (Original) An operating system as defined in Claim 6 wherein said hardware abstraction layer is further arranged to:

- a) exchange information with a driver layer by means of program-interface calls;
- and
- b) cause said at least one resource to be actuated in accordance with said calls.

12. (Currently Amended) A real time power management system for a processor-driven hardware platform for supporting ~~at least one~~ a plurality of applications, said platform having at least one hardware resource wherein said processor is characterized by a plurality of power states and said at least one hardware resource is characterized by a plurality of power states, said power management system comprising, in combination:

- a) an operating system for controlling said processor and said at least one hardware resource;
- b) said operating system including a power manager layer arranged to receive real time input from said plurality of applications, wherein real time input includes a current status and operational requirements of each of said plurality of applications running on the hardware platform;

select a processor power state and a power state of said at least one hardware resource ~~in response to a~~ using said received real time input from said at least one application of said plurality of applications.

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13. (Original) An integrated power management system as defined in Claim 12

wherein:

a) said real time input is provided by means of an application-program interface call from said at least one application to said power manager layer.

14. (Currently Amended) An integrated power management system as defined in Claim 13 wherein said at least one call of said at least one application additionally includes the current status of the at least one application, the current status including at least one of:

- a) a notification that said at least one application has been initiated; and
- b) a notification that said at least one application has ended.

15. (Currently Amended) An integrated power management system as defined in Claim 13 wherein said at least one call of said at least one application additionally includes the operational requirements of the at least one application, the operational requirements including:

- a) a notification that said at least one application requires at least one hardware resource; and
- b) a notification that said at least one application no longer requires said at least one hardware resource.

16. (Currently Amended) A method for controlling power consumption in a hardware platform responsive to information from a plurality of applications at least one

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application, said platform including a processor having a plurality of power states and at least one hardware resource characterized by a plurality of power states, said method comprising the steps of:

organizing said operating system into a kernel, a driver layer, a hardware abstraction layer, and a power manager layer;

applying ~~at least one~~ real time input from said at least one application to said power manager layer, wherein real time input includes a current status and operational requirements of each of the plurality of applications running on the hardware platform;

determining a power management policy in said power manager layer using in response to ~~said at least one~~ real time input; and

communicating said power management policy from said power manager layer to said processor and said at least one hardware resource.

17. (Original) A method as defined in Claim 16 wherein the step of determining a power management policy additionally comprises the step of determining a processor power state.

18. (Original) A method as defined in Claim 16 wherein the step of determining a power management policy additionally comprises the step of determining a power state of said at least one hardware resource.

19. (Currently Amended) A method as defined in Claim 16 wherein the step of applying at least one real time input additionally includes the steps of:

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embedding an application-processor interface call into said at least one application of
said plurality of applications; and
communicating said real time input by means of said call.

20. (Original) A method as defined in Claim 16 wherein the step of communicating
said power management policy from said power manager layer to said processor and said at
least one hardware resource additionally includes the steps of:

embedding application-program interfaces into said power manager layer, said driver
layer and said hardware abstraction layer; and
communicating said power management policy by means of said calls.